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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,297	12/01/2000	Jonathan Yen	10004274-1	4931

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EXAMINER

ABDI, KAMBIZ

ART UNIT

PAPER NUMBER

3621

DATE MAILED: 07/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/728,297

Applicant(s)

YEN ET AL.

Examiner

Kambiz Abdi

Art Unit

3621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,12,13 and 15-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,12,13 and 15-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 3621

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this section can be found in the prior office action.
2. The prior office actions are incorporated herein by reference. In particular, the observations with respect to claim language.
 - Claims 1, 7, 8, 10, 12, 13, 15, and 19 have been amended.
 - Claims 11 and 14 are canceled.
 - Claims 21-25 are added
 - Claims 1-10, 12-13, and 15-25 are pending.

Response to Amendment

Applicant's arguments with respect to claims 1-10, 12-13, and 15-25 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 8, 22, and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicant is using the term "pixel values" which are not defined or explained in the specification or in the claim language therefore the term is considered new matter. Examiner has not been able to distinguish where in the specification "pixel values" as they have been termed in the claims, have been described or

Art Unit: 3621

explained. It is requested that applicant point out specifically where in the specification such terminology has been explained and discussed.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 8, 10, 22, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as their invention.

7. As for claims 1, 8, 22, and 24 are rejected under 35 U.S.C. 112, second paragraph, they are directed to non-limiting language in the inventive steps and being indefinite. The usage of the term "to be" in the subsequent claims is not a positive recitation and does make the claims indefinite. It is not clear that "to be" is an exact or a possibility of such step that is taking place happening. Examiner requests that the applicant takes the appropriate action to remedy the deficiency by either removing the terms in question or rewording the claims as such that a positive step is recited and a concrete result is achieved.

8. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. The applicant fails to point out distinctly and concisely to what the claim is referring by "the printer set". It is not clear to the examiner what the applicant is referring to as, is it that the printer has been set to such resolution? If so where is the step of setting such resolution for the said printer to print the indicium. It seems to the examiner that a step of "setting up the printer is for a specific resolution, based on the type of the printer" is missing.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3621

9. Claims 1, 8, 9, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,175,827 to Robert A. Cordery et al. in view of U.S. Patent No. 5,706,099 to Douglas N. Curry.

10. As per claims 1, 8, 22, and 24, Cordery clearly discloses the method and system of generating, encoding and extracting of a digital (postal payment indicium) data within a graphical representation;

- generating a corroborative digital token from payment information (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68, column 6, lines 1-40, column 7, lines 11-68, and column 9, line 40-51); and

What is not clear and specific in Cordery's teachings is;

- modulating a base image with a graphical encoding of the corroborative digital token to produce a payment indicium (See Curry column 2, lines 6-19) by
- dividing the base image into multiple image areas (See Curry figure 3 and its associated text),
- segmenting imaged areas to be encoded into multiple groups based on pixel values in the image areas to be encoded (See Curry figure 3, and its associated text and column 3, lines 30-41), and
- values in the image areas with sets of two-dimensional code patterns to graphically encode the corroborative digital token in the payment indicium, wherein each set of code patterns encodes a respective corresponding group of areas (See Curry figure 3, and its associated text and column 3, lines 30-41).

However, Curry clearly discloses all the steps of modulating an image for the purposes of embedding a digital data within a halftone image for security reasons. Therefore, it would have been obvious to one having ordinary skill in the art at the time the current invention was made to combine the teachings of Cordery and Curry to achieve a superior method of obfuscating certain data within a graphical representation of a secure indicium.

Art Unit: 3621

11. As per claim 9, Cordery clearly discloses the a method of extracting payment information from a payment indicium, comprising:

- decoding the extracted digital token to produce a decoded message (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68, column 6, lines 1-40, column 7, lines 11-68, and column 9, linea 40-51); and
- extracting from the decoded message payment information encoded in the payment indicium (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68, column 6, lines 1-40, column 7, lines 11-68, and column 9, linea 40-51).

What is not explicit in Cordery is the method of extraction of indicium from a graphical representation.

- extracting a digital token from a payment indicium based upon a comparison of the payment indicium and a base image (See Curry figure 1 and associated text and column 4, lines 8-68).

However Curry clearly teaches the encoding and extraction of data within a graphical representation.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the current invention was made to combine the teachings of Cordery and Curry to achieve a superior method of obfuscating certain data within a graphical representation of a secure indicium. It is known to have added additional security to have data encoded to a graphical representation that can obfuscate such data within the a graphical representation such an image than just representing the data in a bar code format.

12. As per claims 2-4, and 6, Cordery and Curry clearly disclose all the limitations of claim 1, further; Cordery discloses,

- the payment information from which the corroborative digital token is generated includes an indication of payment amount (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68, column 6, lines 1-40, column 7, lines 11-68, column 9, line 40-51, column 12 lines 1-60, and column 14, lines 28-60).
- the payment information from which the corroborative digital token is generated includes postal data (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68,

Art Unit: 3621

column 6, lines 1-40, column 7, lines 11-68, column 9, line 40-51, column 12 lines 1-60, and column 14, lines 28-60)..

- the postal data includes destination address information (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68, column 6, lines 1-40, column 7, lines 11-68, column 9, line 40-51, column 12 lines 1-60, and column 14, lines 28-60). (Further, this claim appears to be non-functional since the postal data is just address information and wherein the address information is not acted upon in any way).

the corroborative digital token is generated from a cryptographic transformation of the payment information (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68, column 6, lines 1-40, column 7, lines 11-68, column 9, line 40-51, column 12 lines 1-60, and column 14, lines 28-60).

13. As per claims 5, 7, 21, 23, and 25, Cordery and Curry clearly teach all the limitations of claims 1, 8, 22, and 24, further,

What Cordery is not clear on is the method of using the half-tone image encoding,

- base image includes a user selected image (See Curry abstract, figure 1 and associated texts, column 1, lines 12-49, column 2, lines 41-50, column 3, lines 13-57, and column 4, lines 24-68).
- image areas to be encoded are segmented into multiple halftone groups based on gray level values in the images to be encoded (See Curry abstract, figure 1 and associated texts, column 1, lines 12-49, column 2, lines 41-50, column 3, lines 13-57, and column 4, lines 24-68), and
- the segmented image areas are encoded with respective corresponding sets of two-dimensional, coded halftone patterns (See Curry abstract, figure 1 and associated texts, column 1, lines 12-49, column 2, lines 41-50, column 3, lines 13-57, and column 4, lines 24-68).

However, Curry clearly discloses that a halftone image can be used to be carrier of the obfuscated token information instead of the 2D barcodes traditionally used as the carrier of token information along with other indicium information (See Curry abstract, figure 1 and associated texts, column 1, lines 12-49, column 2, lines 41-50, column 4, lines 24-68). Therefore, it would have been obvious to one having

Art Unit: 3621

ordinary skill in the art at the time the current invention was made to use the teachings of Curry to take advantage of visual enhancements that the functional usefulness of the human perceptive half-tone images have, along with digital data that can be embedded and read by a machine within the half-tone image.

14. As per claims 10, 12, and 13, Cordery and Curry disclose a method of generating a payment indicium, comprising:

- rendering a payment indicium containing embedded payment information on a printing surface (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68, column 6, lines 1-40, column 7, lines 11-68, column 9, line 40-51, column 12 lines 1-60, and column 14, lines 28-60).

What Cordery is not explicit is a printing characteristic that degrades with photographic reproductions such that the embedded payment information is extractable from an original rendering of the payment indicium but is un-extractable from a photographic reproduction of an original rendering of the payment indicium. However, Curry clearly teaches that using different resolution printing does affect the quality and clarity of the reproduced copy of the halftone image. Additionally, it is well known in the art that the higher the density of original halftone image the harder it would be to reproduce the image with the watermark intact (See Wang U.S. Patent No. 6,263,086). As well as copying a halftone image does depend on the original resolution of the image being copied as it is clear as technology changes the copying system have been improved to replicated a higher degree of resolution. Therefore, it would have been obvious to one having ordinary skill in the art at the time the current invention was made to use a higher density resolution image for printing the indicia on the mailing piece for better security as for prevention of copy reproduction.

Art Unit: 3621

15. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,175,827 to Robert A. Cordery et al. in view of U.S. Patent No. 5,710,814 to Keith Klemba et al.

16. As per claims 15-20, Cordery clearly discloses a method of generating a payment indicium, comprising:

- encoding payment information into a corroborative digital token (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68, column 6, lines 1-40, column 7, lines 11-68, column 9, line 40-51, column 12 lines 1-60, and column 14, lines 28-60).; and
- rendering a payment indicium containing the encoded payment information (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68, column 6, lines 1-40, column 7, lines 11-68, column 9, line 40-51, column 12 lines 1-60, and column 14, lines 28-60).
- one or more of the encoding parameters vary with payment value, an encoding security level parameter varies with payment value, an encoding robustness parameter varies with payment value, an error correction code redundancy parameter varies with payment value (See Cordery abstract, figures 2-7 and associated text, column 5, lines 60-68, column 6, lines 1-40, column 7, lines 11-68, column 9, line 40-51, column 12 lines 1-60, and column 14, lines 28-60).

What Cordery is not clear on is an encoding private key bit length parameter varies with payment value. It is clear that as the mail count and amount of the registers change the token is changing as well that is the bases of creation of none-similar tokens in the postage meter systems. However, the use of variable length encryption is an obvious choice, it is clear that higher security levels require higher value assets in regards to more complicated means of encryption and decryption (here the asset is the postage value amount). This is truer for monetary asset indicators such as indicium related to a postage amount. It is clear that the higher the value of the asset particularly monetary assets the higher the bit length of the encryption. Klemba sets the stage for having variable encryption schemes and bit lengths for different assets of different value for the purposes of encryption of variable data, depending on the value of the assets (Here the postage amount and

Art Unit: 3621

indicium). As it is clear by Klemba's teaching (See Klemba column 2, lines 34-63 and column 7, lines 63-68 and column 8, lines 1-15). In addition it is clear that using the higher bit length requires a higher resource to encrypt and decrypt an asset. Therefore, it would have been obvious to one having ordinary skill in the art at the time the current invention was made to use the variable bit length encryption based on the value of the asset that is being encrypted and save on usage of resources and create a higher security for the indicium.

Conclusion

17. Examiner has pointed out particular references contained in the prior arts of record in the body of this action for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the response, to consider fully the entire references as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior arts or disclosed by the examiner.

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kambiz Abdi whose telephone number is (703) 305-3364. The examiner can normally be reached on 9:30 AM to 5:00 PM.

Art Unit: 3621

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammell can be reached on (703) 305-9768.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703)308-1113.

Any response to this action should be mailed to:

**Commissioner of Patents and Trademarks
Washington D.C. 20231**

or faxed to:

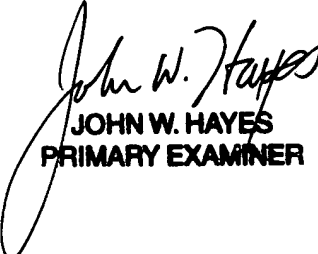
(703) 305-7687 [Official communications; including After Final communications labeled "Box AF"]

(703) 746-7749 [Informal/Draft communications, labeled "PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to:

**Crystal Park 5, 2451 Crystal Drive
7th floor receptionist, Arlington, VA, 22202**

Abdi/K
July 24, 2003


**JOHN W. HAYES
PRIMARY EXAMINER**